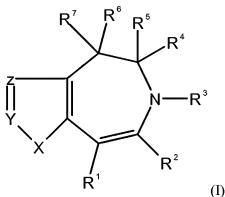


## Amendments to the Claims

The following listing of claims will replace all prior versions and listings of claims in the application.

### Listing of Claims:

1. (Currently amended) A compound having the formula (I):



wherein:

X is  $\text{NR}^9$ , O or  $\text{S}(\text{O})_t$  (where t is 0 to 2);

Y is  $\text{CR}^{30}$  or N;

Z is  $\text{CR}^{31}$  or N;

$\text{R}^{30}$  and  $\text{R}^{31}$  are each independently selected from the group consisting of halo, hydrogen, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted aryl, optionally substituted heteroaryl, optionally substituted cycloalkyl, optionally substituted cycloalkylalkyl, optionally substituted heterocyclyl, optionally substituted heterocyclylalkyl, optionally substituted aralkyl, optionally substituted heteroaralkyl,  $-\text{OR}^{32}$ ,  $-\text{SR}^{32}$ ,  $-\text{N}(\text{R}^{33})\text{R}^{34}$ ,  $-\text{N}(\text{R}^{33})\text{S}(\text{O})_2\text{R}^{23}$ ,  $-\text{N}(\text{R}^{35})\text{N}(\text{R}^{33})\text{R}^{34}$ ,  $-\text{N}(\text{R}^{35})\text{N}(\text{R}^{33})\text{S}(\text{O})_2\text{R}^{23}$ ,  $-\text{C}(\text{O})\text{R}^{36}$ ,  $-\text{C}(\text{O})\text{OR}^{32}$ ,  $-\text{C}(\text{S})\text{OR}^{32}$ ,  $-\text{C}(\text{O})\text{SR}^{32}$ ,  $-\text{C}(\text{O})\text{N}(\text{R}^{33})\text{R}^{34}$ ,  $-\text{C}(\text{S})\text{N}(\text{R}^{33})\text{R}^{34}$ ,  $-\text{C}(\text{O})\text{N}(\text{R}^{33})\text{S}(\text{O})_2\text{R}^{23}$ ,  $-\text{C}(\text{S})\text{N}(\text{R}^{33})\text{S}(\text{O})_2\text{R}^{23}$ ,  $-\text{C}(\text{O})\text{N}(\text{R}^{35})\text{N}(\text{R}^{33})\text{R}^{34}$ ,  $-\text{C}(\text{S})\text{N}(\text{R}^{35})\text{N}(\text{R}^{33})\text{R}^{34}$  and  $-\text{C}(\text{O})\text{N}(\text{R}^{35})\text{N}(\text{R}^{33})\text{S}(\text{O})_2\text{R}^{23}$ ; or

$\text{R}^{30}$  and  $\text{R}^{31}$  together with the carbon atoms to which they are attached, form an optionally substituted cycloalkyl ring, optionally substituted cycloalkenyl ring, optionally substituted cycloalkynyl ring, optionally substituted heterocyclyl ring, optionally substituted heteroaryl ring, or optionally substituted aryl with the exception of substituted or unsubstituted phenyl or substituted or unsubstituted naphthyl;

$R^{32}$ ,  $R^{33}$ ,  $R^{34}$ ,  $R^{35}$  and  $R^{36}$  are selected as in (a) or (b) as follows: (a)  $R^{32}$ ,  $R^{33}$ ,  $R^{34}$ ,  $R^{35}$  and  $R^{36}$  are each independently hydrogen, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted aryl, optionally substituted aralkyl, optionally substituted heterocyclyl, optionally substituted heteroaryl, or optionally substituted heteroaralkyl; or (b)  $R^{33}$  and  $R^{34}$ , together with the nitrogen atom to which they are attached, form an optionally substituted heterocyclyl ring, or an optionally substituted heteroaryl ring, and the others of  $R^{32}$ ,  $R^{33}$ ,  $R^{34}$ ,  $R^{35}$  and  $R^{36}$  are selected as in (a) above,

$R^1$  and  $R^2$  are each independently selected from a group consisting of halo, hydrogen, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted aryl, optionally substituted heteroaryl, optionally substituted cycloalkyl, optionally substituted heterocyclyl, optionally substituted aralkyl, optionally substituted heteroaralkyl,  $-OR^{14}$ ,  $-SR^{14}$ ,  $-N(R^{15})R^{16}$ ,  $-N(R^{15})S(O)_2R^{23}$ ,  $-N(R^{17})N(R^{15})R^{16}$ ,  $-N(R^{17})N(R^{15})S(O)_2R^{23}$ ,  $-C(O)R^{18}$ ,  $-C(O)OR^{14}$ ,  $-C(S)OR^{14}$ ,  $-C(O)SR^{14}$ ,  $-C(O)N(R^{15})R^{16}$ ,  $-C(O)N(R^{15})S(O)_2R^{23}$ ,  $-C(O)N(R^{15})N=R^{16}$ ,  $-C(O)N(R^{17})N(R^{15})R^{16}$  and  $-C(O)N(R^{17})N(R^{15})S(O)_2R^{23}$ ;

$R^3$  is hydrogen, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted aryl, optionally substituted aralkyl, optionally substituted heteroaryl, optionally substituted heterocyclyl, optionally substituted heteroaralkyl,  $-C(O)R^{10}$ ,  $-C(O)OR^{10}$ ,  $-S(O)_2R^{10}$ ,  $-C(O)N(R^{11})R^{12}$ ,  $-C(O)N(R^{11})S(O)_2R^{23}$ ,  $-C(O)N(R^{13})N(R^{11})R^{12}$ ,  $-C(O)N(R^{13})N(R^{11})S(O)_2R^{23}$ ,  $-N(R^{13})C(O)R^{10}$ ,  $-N(R^{13})C(O)N(R^{11})R^{12}$ ,  $-N(R^{13})C(O)N(R^{11})S(O)_2R^{23}$ ,  $-N(R^{10})C(O)N(R^{13})N(R^{11})R^{12}$ ,  $-N(R^{10})C(O)N(R^{13})N(R^{11})S(O)_2R^{23}$ ,  $-N(R^{13})C(O)OR^{10}$ ,  $-P(O)OR^{10}$ , or  $-P(O)(OR^{19})OR^{12}$ ;

$R^4$ ,  $R^5$ ,  $R^6$  and  $R^7$  are each independently selected from a group consisting of hydrogen, halo, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted aryl, optionally substituted heteroaryl, optionally substituted cycloalkyl, optionally substituted heterocyclyl, optionally substituted aralkyl, optionally substituted heteroaralkyl,  $-OR^{14}$ ,  $-SR^{14}$ ,  $-S(O)_2R^{14}$ ,  $-N(R^{15})R^{16}$ ,  $-N(R^{15})S(O)_2R^{23}$ ,  $-N(R^{15})C(O)R^{23}$ ,  $-C(O)R^{18}$ ,  $-C(O)OR^{20}$ ,  $-C(O)N(R^{21})R^{22}$ ,  $-C(O)N(R^{21})S(O)_2R^{23}$ ;  $-C(O)N(R^{24})N(R^{21})R^{22}$  and  $-C(O)N(R^{24})N(R^{21})S(O)_2R^{23}$ ; or

$R^6$  and  $R^7$  together form an oxo, thioxo, optionally substituted imino, optionally substituted oxime or an optionally substituted hydrazone, or  $R^6$  and  $R^7$ , together with the carbon atom to which they are attached, form an optionally substituted exocyclic double bond, and  $R^4$  and  $R^5$  are as described above; or

R<sup>4</sup> and R<sup>5</sup> together form an oxo, thioxo, optionally substituted imino, optionally substituted oxime or an optionally substituted hydrazone, or R<sup>4</sup> and R<sup>5</sup>, together with the carbon atom to which they are attached, form an optionally substituted exocyclic double bond, and R<sup>6</sup> and R<sup>7</sup> are as described above; or

R<sup>4</sup> and R<sup>5</sup>, or R<sup>4</sup> and R<sup>6</sup>, or R<sup>4</sup> and R<sup>7</sup>, or R<sup>5</sup> and R<sup>6</sup>, or R<sup>5</sup> and R<sup>7</sup>, or R<sup>6</sup> and R<sup>7</sup>, together with the carbon atom to which they are attached, form an optionally substituted cycloalkyl ring, optionally substituted heterocyclyl ring, an optionally substituted cycloalkenyl ring or together form a double bond, and the others of R<sup>4</sup>, R<sup>5</sup>, R<sup>6</sup> and R<sup>7</sup> are as described above; or R<sup>4</sup> and R<sup>5</sup>, together with the carbon atom to which they are attached, and R<sup>6</sup> and R<sup>7</sup>, together with the carbon atom to which they are attached, form an optionally substituted cycloalkyl ring, optionally substituted heterocyclyl ring or an optionally substituted cycloalkenyl ring;

R<sup>9</sup> is hydrogen, optionally substituted alkyl, -C(O)R<sup>18</sup>, -C(O)OR<sup>20</sup> or -S(O)<sub>2</sub>R<sup>23</sup>;

R<sup>10</sup>, R<sup>11</sup>, R<sup>12</sup>, R<sup>13</sup> and R<sup>19</sup> are selected as in (a) or (b) as follows: (a) R<sup>10</sup>, R<sup>11</sup>, R<sup>12</sup>, R<sup>13</sup> and R<sup>19</sup> each independently hydrogen, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted aryl, optionally substituted aralkyl, optionally substituted heterocyclyl, optionally substituted heteroaryl, or optionally substituted heteroaralkyl; or (b) R<sup>11</sup> and R<sup>12</sup> or R<sup>12</sup> and R<sup>19</sup>, together with the atoms to which they are attached, form an optionally substituted heterocyclyl ring or an optionally substituted heteroaryl ring; and the others of R<sup>10</sup>, R<sup>11</sup>, R<sup>12</sup>, R<sup>13</sup> and R<sup>19</sup> are selected as in (a), above;

R<sup>14</sup>, R<sup>15</sup>, R<sup>16</sup>, R<sup>17</sup> and R<sup>18</sup> are selected as in (a) or (b) as follows: (a) R<sup>14</sup>, R<sup>15</sup>, R<sup>16</sup>, R<sup>17</sup> and R<sup>18</sup> are each independently hydrogen, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted aryl, optionally substituted aralkyl, optionally substituted heterocyclyl, optionally substituted heteroaryl, or optionally substituted heteroaralkyl; or (b) R<sup>15</sup> and R<sup>16</sup>, together with the nitrogen atom to which they are attached, form an optionally substituted heterocyclyl ring, or an optionally substituted heteroaryl ring, and the others of R<sup>14</sup>, R<sup>15</sup>, R<sup>16</sup>, R<sup>17</sup> and R<sup>18</sup> are selected as in (a) above;

R<sup>20</sup>, R<sup>21</sup>, R<sup>22</sup> and R<sup>24</sup> are selected as in (a) or (b) as follows: (a) R<sup>20</sup>, R<sup>21</sup>, R<sup>22</sup> and R<sup>24</sup> are each independently hydrogen, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted aryl, optionally substituted aralkyl, optionally substituted heterocyclyl, optionally substituted heteroaryl, or optionally substituted heteroaralkyl; or (b) R<sup>21</sup> and R<sup>22</sup>, together with the nitrogen

atom to which they are attached, form an optionally substituted heterocyclyl ring, or an optionally substituted heteroaryl ring, and the others of R<sup>20</sup>, R<sup>21</sup>, R<sup>22</sup> and R<sup>24</sup> are selected as in (a) above;

R<sup>23</sup> is optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted aryl, optionally substituted aralkyl, optionally substituted heterocyclyl, optionally substituted heteroaryl, or optionally substituted heteroaralkyl;

each of  $\text{R}^1\text{-R}^{24}$ ,  $\text{R}^1$ ,  $\text{R}^2$ ,  $\text{R}^3$ ,  $\text{R}^4$ ,  $\text{R}^5$ ,  $\text{R}^6$ ,  $\text{R}^7$ ,  $\text{R}^8$ ,  $\text{R}^9$ ,  $\text{R}^{10}$ ,  $\text{R}^{11}$ ,  $\text{R}^{12}$ ,  $\text{R}^{13}$ ,  $\text{R}^{14}$ ,  $\text{R}^{15}$ ,  $\text{R}^{16}$ ,  $\text{R}^{17}$ ,  $\text{R}^{18}$ ,  $\text{R}^{19}$ ,  $\text{R}^{20}$ ,  $\text{R}^{21}$ ,  $\text{R}^{22}$ ,  $\text{R}^{23}$ , and  $\text{R}^{24}$  and  $\text{R}^{30}$ - $\text{R}^{36}$ ,  $\text{R}^{30}$ ,  $\text{R}^{31}$ ,  $\text{R}^{32}$ ,  $\text{R}^{33}$ ,  $\text{R}^{34}$ ,  $\text{R}^{35}$  and  $\text{R}^{36}$ , when substituted, are substituted with one or more substituents, each independently selected from Q<sup>1</sup>;

each Q<sup>1</sup> is independently selected from halo, pseudohalo, oxo, thioxo, cyano, thiocyno, isocyno, nitro, azido, alkyl, haloalkyl, alkenyl containing 1 to 2 double bonds, alkynyl containing 1 to 2 triple bonds, cycloalkyl, cycloalkenyl, cycloalkynyl, cycloalkylalkyl, heterocyclyl, heterocyclylalkyl, aryl, heteroaryl, aralkyl, aralkenyl, aralkynyl, heteroarylalkyl, alkylidene, arylalkylidene, aryloxyarylcarbonylamino, hydroxycarbonylalkylthio, halosulfonyl, -OR<sup>70</sup>, -SR<sup>70</sup>, -R<sup>60</sup>-C(J)R<sup>71</sup>, -R<sup>60</sup>-N(R<sup>70</sup>)C(J)R<sup>71</sup>, -OC(O)R<sup>71</sup>, -R<sup>60</sup>-N(R<sup>75</sup>)(R<sup>76</sup>), -N<sup>+</sup>(R<sup>77</sup>)<sub>3</sub>, -P(R<sup>78</sup>)<sub>2</sub>, -P(O)(R<sup>78</sup>)<sub>2</sub>, -OP(O)(R<sup>78</sup>)<sub>2</sub>, -N(R<sup>70</sup>)S(O)<sub>2</sub>R<sup>71</sup>, -S(O)<sub>2</sub>R<sup>71</sup>, -S(O)R<sup>82</sup>, -OS(O)R<sup>83</sup>, -OS(O)<sub>2</sub>R<sup>83</sup> or -Si(R<sup>83</sup>)<sub>3</sub>;

two Q<sup>1</sup> groups, which substitute atoms in a 1,2 or 1,3 arrangement, together with the carbon atoms to which they are attached form a cycloalkyl ring, cycloalkenyl ring, cycloalkynyl ring or heterocyclyl ring; or

each Q<sup>1</sup> is independently substituted or unsubstituted with one or more substituents each independently selected from Q<sup>2</sup>;

each Q<sup>2</sup> is independently selected from halo, pseudohalo, oxo, thioxo, cyano, thiocyno, isocyno, nitro, azido, alkyl, haloalkyl, alkenyl containing 1 to 2 double bonds, alkynyl containing 1 to 2 triple bonds, cycloalkyl, cycloalkenyl, cycloalkynyl, cycloalkylalkyl, heterocyclyl, heterocyclylalkyl, aryl, heteroaryl, aralkyl, aralkenyl, aralkynyl, heteroarylalkyl, alkylidene, arylalkylidene, aryloxyarylcarbonylamino, hydroxycarbonylalkylthio, halosulfonyl, -OR<sup>70</sup>, -SR<sup>70</sup>, -R<sup>60</sup>-C(J)R<sup>71</sup>, -R<sup>60</sup>-N(R<sup>70</sup>)C(J)R<sup>71</sup>, -OC(O)R<sup>71</sup>, -R<sup>60</sup>-N(R<sup>75</sup>)(R<sup>76</sup>), -N<sup>+</sup>(R<sup>77</sup>)<sub>3</sub>, -P(R<sup>78</sup>)<sub>2</sub>, -P(O)(R<sup>78</sup>)<sub>2</sub>, -OP(O)(R<sup>78</sup>)<sub>2</sub>, -N(R<sup>70</sup>)S(O)<sub>2</sub>R<sup>71</sup>, -S(O)<sub>2</sub>R<sup>71</sup>, -S(O)R<sup>82</sup>, -OS(O)R<sup>83</sup>, -OS(O)<sub>2</sub>R<sup>83</sup> or -Si(R<sup>83</sup>)<sub>3</sub>;

two Q<sup>2</sup> groups, which substitute atoms in a 1,2 or 1,3 arrangement, together with the carbon atoms to which they are attached form a cycloalkyl ring, cycloalkenyl ring, cycloalkynyl ring or heterocyclyl ring;

each J is independently O, S or -NR<sup>70</sup>;

each R<sup>60</sup> is independently a direct bond or alkylene;

each R<sup>70</sup> is independently hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, aralkyl, haloalkyl, heterocyclylalkyl or heteroaralkyl;

each R<sup>71</sup> is independently hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, aralkyl, haloalkyl, heterocyclylalkyl, heteroaralkyl, -OR<sup>72</sup> or -N(R<sup>73</sup>)R<sup>74</sup>;

R<sup>72</sup>, R<sup>73</sup> and R<sup>74</sup> are each independently hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, aralkyl or heteroaralkyl; or

R<sup>73</sup> and R<sup>74</sup>, together with the nitrogen atom to which they are attached, form a heterocyclyl ring or heteroaryl ring;

R<sup>75</sup> and R<sup>76</sup> are each independently hydrogen, alkyl, alkenyl, alkynyl, aryl, aralkyl, heteroaryl, heteroaralkyl, heterocyclyl or heterocyclylalkyl; or

R<sup>75</sup> and R<sup>76</sup>, together with the nitrogen atom to which they are attached, form a heterocyclyl ring or heteroaryl ring;

each R<sup>77</sup> is independently alkyl, alkenyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, aralkyl or heteroaralkyl;

R<sup>78</sup> is alkyl, heteroaryl, heterocyclyl, aryl, -OR<sup>79</sup> or -N(R<sup>80</sup>)R<sup>81</sup>;

R<sup>79</sup> is hydrogen, alkyl, alkenyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, aralkyl or heteroaralkyl;

R<sup>80</sup> and R<sup>81</sup> are each independently hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, aralkyl or heteroaralkyl; or

R<sup>80</sup> and R<sup>81</sup>, together with the nitrogen atom to which they are attached, form a heterocyclyl ring or heteroaryl ring;

R<sup>82</sup> is alkyl, alkenyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, aralkyl, heteroaralkyl or -OR<sup>83</sup>; and

each R<sup>83</sup> is independently alkyl, alkenyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, aralkyl or heteroaralkyl;

as a single isomer, a mixture of isomers, or as a racemic mixture of isomers; ~~or as a solvate or polymorph; or as a prodrug;~~ or as a pharmaceutically acceptable salt thereof.

2. (Currently amended) A compound of claim 1, wherein:

R<sup>1</sup> is -C(O)R<sup>18</sup>, -C(O)OR<sup>14</sup>, -C(S)OR<sup>14</sup>, -C(O)SR<sup>14</sup>, -C(O)N(R<sup>15</sup>)R<sup>16</sup>,  
 -C(O)N(R<sup>15</sup>)S(O)<sub>2</sub>R<sup>23</sup>, -C(O)N(R<sup>15</sup>)N=R<sup>16</sup>, -C(O)N(R<sup>17</sup>)N(R<sup>15</sup>)R<sup>16</sup> or  
 -C(O)N(R<sup>17</sup>)N(R<sup>15</sup>)S(O)<sub>2</sub>R<sup>23</sup><sub>3/2</sub>

wherein  $R^{14}$ ,  $R^{15}$ ,  $R^{16}$ ,  $R^{17}$  and  $R^{23}$  are described in Claim 1.

3. (Currently amended) The compound of claim 2, wherein  $R^3$  is  $-C(O)R^{10}$ ,  $-C(O)OR^{10}$ ,  $-S(O)_2R^{10}$  or  $-C(O)N(R^{11})R^{12}$ ;

wherein  $R^{10}$ ,  $R^{11}$  and  $R^{12}$  are described in Claim 1.

4. (Original) The compound of claim 3 wherein  $R^2$  is hydrogen, halo, optionally substituted alkyl, optionally substituted alkenyl or optionally substituted alkynyl.

5. (Original) The compound of Claim 4 wherein  $R^4$ ,  $R^5$ ,  $R^6$  and  $R^7$  are selected from a), b), c), d), e), f), g), h) and i) below:

a)  $R^4$  and  $R^5$  are each independently hydrogen or halo and  $R^6$  and  $R^7$  are optionally substituted alkyl;

b)  $R^6$  and  $R^7$  are each independently hydrogen or halo and  $R^4$  and  $R^5$  are optionally substituted alkyl;

c)  $R^4$ ,  $R^5$ ,  $R^6$  and  $R^7$  are each optionally substituted alkyl;

d)  $R^4$  and  $R^5$  are each independently hydrogen or halo and  $R^6$  and  $R^7$ , together with the carbon to which they are attached, independently form an optionally substituted cycloalkyl or optionally substituted cycloalkenyl ring.

e)  $R^4$  and  $R^5$  are optionally substituted alkyl and  $R^6$  and  $R^7$ , together with the carbon to which they are attached, independently form an optionally substituted cycloalkyl or optionally substituted cycloalkenyl ring

f)  $R^4$  and  $R^5$ , together with the carbon to which they are attached, independently form an optionally substituted cycloalkyl or optionally substituted cycloalkenyl ring and  $R^6$  and  $R^7$  are each independently hydrogen or halo;

g)  $R^4$  and  $R^5$ , together with the carbon to which they are attached, independently form an optionally substituted cycloalkyl or optionally substituted cycloalkenyl ring and  $R^6$  and  $R^7$  are optionally substituted alkyl;

h)  $R^4$  and  $R^5$ , together with the carbon to which they are attached, independently form an optionally substituted cycloalkyl ring or optionally substituted cycloalkenyl ring and  $R^6$  and  $R^7$ , together with the carbon to which they are attached, independently form an optionally substituted cycloalkyl ring or optionally substituted cycloalkenyl ring; and

i)  $R^4$ ,  $R^5$ ,  $R^6$  and  $R^7$  are each independently hydrogen or halo.

6. (Original) The compound of claim 5 wherein:

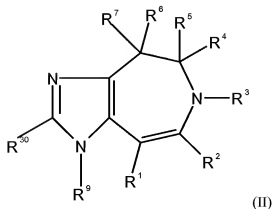
Y is  $CR^{30}$ ; and

R<sup>30</sup> is halo, hydrogen, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted aryl, optionally substituted heteroaryl, optionally substituted cycloalkyl, optionally substituted cycloalkylalkyl, optionally substituted heterocyclyl, optionally substituted heterocyclylalkyl, optionally substituted aralkyl, optionally substituted heteroaralkyl, -OR<sup>32</sup>, -SR<sup>32</sup>, -N(R<sup>33</sup>)R<sup>34</sup>, -N(R<sup>33</sup>)S(O)<sub>2</sub>R<sup>23</sup>, -N(R<sup>35</sup>)N(R<sup>33</sup>)R<sup>34</sup>, -N(R<sup>35</sup>)N(R<sup>33</sup>)S(O)<sub>2</sub>R<sup>23</sup>, -C(O)R<sup>36</sup>, -C(O)OR<sup>32</sup>, -C(S)OR<sup>32</sup>, -C(O)SR<sup>32</sup>, -C(O)N(R<sup>33</sup>)R<sup>34</sup>, -C(S)N(R<sup>33</sup>)R<sup>34</sup>, -C(O)N(R<sup>33</sup>)S(O)<sub>2</sub>R<sup>23</sup>, -C(S)N(R<sup>33</sup>)S(O)<sub>2</sub>R<sup>23</sup>, -C(O)N(R<sup>35</sup>)N(R<sup>33</sup>)R<sup>34</sup>, -C(S)N(R<sup>35</sup>)N(R<sup>33</sup>)R<sup>34</sup> or -C(O)N(R<sup>35</sup>)N(R<sup>33</sup>)S(O)<sub>2</sub>R<sup>23</sup>;

where R<sup>23</sup> is optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted aryl, optionally substituted aralkyl, optionally substituted heterocyclyl, optionally substituted heteroaryl, or optionally substituted heteroaralkyl; and

where R<sup>32</sup>, R<sup>33</sup>, R<sup>34</sup>, R<sup>35</sup> and R<sup>36</sup> are selected as in (a) or (b) as follows: (a) R<sup>32</sup>, R<sup>33</sup>, R<sup>34</sup>, R<sup>35</sup> and R<sup>36</sup> are each independently hydrogen, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted aryl, optionally substituted aralkyl, optionally substituted heterocyclyl, optionally substituted heteroaryl, or optionally substituted heteroaralkyl; or (b) R<sup>33</sup> and R<sup>34</sup>, together with the nitrogen atom to which they are attached, form an optionally substituted heterocyclyl ring, or an optionally substituted heteroaryl ring, and the others of R<sup>32</sup>, R<sup>33</sup>, R<sup>34</sup>, R<sup>35</sup> and R<sup>36</sup> are selected as in (a) above.

7. (Currently amended) A compound of claim 6 having the formula (II):



or a pharmaceutically acceptable ~~derivative, salts, esters, enol ethers, enol esters, acetals, ketals, orthoesters, hemiacetals, hemiketals, acids, and bases, thereof~~ thereof, wherein:

R<sup>1</sup> is -C(O)OR<sup>14</sup>, -C(S)OR<sup>14</sup>, -C(O)SR<sup>14</sup>, -C(O)N(R<sup>15</sup>)R<sup>16</sup>, -C(O)N(R<sup>15</sup>)S(O)<sub>2</sub>R<sup>23</sup>, -C(O)N(R<sup>15</sup>)N=R<sup>16</sup>, -C(O)N(R<sup>17</sup>)N(R<sup>15</sup>)R<sup>16</sup> and -C(O)N(R<sup>17</sup>)N(R<sup>15</sup>)S(O)<sub>2</sub>R<sup>23</sup>;

$R^2$  is hydrogen, halo or optionally substituted alkyl;  
 $R^3$  is  $-C(O)R^{10}$ ;  
 $R^4$  and  $R^5$  are each independently hydrogen or halo; or  
 $R^4$  and  $R^5$  are each optionally substituted alkyl;  
 $R^6$  and  $R^7$  are each independently hydrogen or halo; or  
 $R^6$  and  $R^7$  are each optionally substituted alkyl; or  
 $R^6$  and  $R^7$  together with the carbon atom to which they are attached, form an optionally substituted cycloalkyl ring or an optionally substituted cycloalkenyl ring;  
 $R^9$  is hydrogen, optionally substituted alkyl,  $-C(O)R^{18}$ , or  $-S(O)_2R^{23}$ ;  
 $R^{10}$  is an optionally substituted aryl or an optionally substituted heteroaryl;  
 $R^{14}$ ,  $R^{15}$ ,  $R^{16}$ ,  $R^{17}$  and  $R^{18}$  are each independently hydrogen, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted aryl, optionally substituted aralkyl, optionally substituted heterocyclyl, optionally substituted heteroaryl, or optionally substituted heteroaralkyl;  
 $R^{23}$  is optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted aryl, optionally substituted aralkyl, optionally substituted heterocyclyl, optionally substituted heteroaryl, or optionally substituted heteroaralkyl; and  
 $R^{30}$  is halo, hydrogen, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted cycloalkylalkyl, optionally substituted heterocyclyl, optionally substituted heterocyclylalkyl, optionally substituted aryl, optionally substituted aralkyl, optionally substituted heteroaryl, optionally substituted heteroaralkyl,  $-OR^{32}$ ,  $-SR^{32}$ ,  $-N(R^{33})R^{34}$ ,  $-N(R^{33})S(O)_2R^{23}$ ,  $-N(R^{35})N(R^{33})R^{34}$ ,  $-N(R^{35})N(R^{33})S(O)_2R^{23}$ ,  $-C(O)R^{36}$ ,  $-C(O)OR^{32}$ ,  $-C(S)OR^{32}$ ,  $-C(O)SR^{32}$ ,  $-C(O)N(R^{33})R^{34}$ ,  $-C(S)N(R^{33})R^{34}$ ,  $-C(O)N(R^{33})S(O)_2R^{23}$ ,  $-C(S)N(R^{33})S(O)_2R^{23}$ ,  $-C(O)N(R^{35})N(R^{33})R^{34}$ ,  $-C(S)N(R^{35})N(R^{33})R^{34}$  or  $-C(O)N(R^{35})N(R^{33})S(O)_2R^{23}$ .

8. (Original) The compound of Claim 7 wherein:

$R^4$ ,  $R^5$ ,  $R^6$  and  $R^7$  are each independently hydrogen or halo; and  
 $R^{30}$  is selected from the group consisting of hydrogen, halo,  $-C(O)R^{36}$ ,  $-C(O)OR^{32}$ ,  $-C(S)OR^{32}$ ,  $-C(O)SR^{32}$ ,  $-C(O)N(R^{33})R^{34}$ ,  $-C(S)N(R^{33})R^{34}$ ,  $-C(O)N(R^{33})S(O)_2R^{23}$ ,  $-C(S)N(R^{33})S(O)_2R^{23}$ ,  $-C(O)N(R^{35})N(R^{33})R^{34}$ ,  $-C(S)N(R^{35})N(R^{33})R^{34}$  and  $-C(O)N(R^{35})N(R^{33})S(O)_2R^{23}$ ;



where R<sup>23</sup> is optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted aryl, optionally substituted aralkyl, optionally substituted heterocyclyl, optionally substituted heteroaryl, or optionally substituted heteroaralkyl; and

where R<sup>32</sup>, R<sup>33</sup>, R<sup>34</sup>, R<sup>35</sup> and R<sup>36</sup> are selected as in (a) or (b) as follows: (a) R<sup>32</sup>, R<sup>33</sup>, R<sup>34</sup>, R<sup>35</sup> and R<sup>36</sup> are each independently hydrogen, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted aryl, optionally substituted aralkyl, optionally substituted heterocyclyl, optionally substituted heteroaryl, or optionally substituted heteroaralkyl; or (b) R<sup>33</sup> and R<sup>34</sup>, together with the nitrogen atom to which they are attached, form an optionally substituted heterocyclyl ring, or an optionally substituted heteroaryl ring, and the others of R<sup>32</sup>, R<sup>33</sup>, R<sup>34</sup>, R<sup>35</sup> and R<sup>36</sup> are selected as in (a) above.

9. (Original) The compound of Claim 8 wherein said compound is

6-(4-fluoro-benzoyl)-3,6,7,8-tetrahydro-imidazo[4,5-d] azepine-4-carboxylic acid ethyl ester.

10. (Original) The compound of Claim 7 wherein:

R<sup>4</sup> and R<sup>5</sup> are each independently hydrogen or halo; and

R<sup>6</sup> and R<sup>7</sup> are optionally substituted alkyl; or

R<sup>6</sup> and R<sup>7</sup>, together with the carbon to which they are attached, independently form an optionally substituted cycloalkyl ring.

11. (Original) The compound of Claim 10 wherein

R<sup>2</sup> is hydrogen, halo or optionally substituted alkyl; and

R<sup>9</sup> is hydrogen.

12. (Original) The compound of Claim 11 wherein R<sup>30</sup> is selected from the group consisting of

-C(O)R<sup>36</sup>, -C(O)OR<sup>32</sup>, -C(S)OR<sup>32</sup>, -C(O)SR<sup>32</sup>, -C(O)N(R<sup>33</sup>)R<sup>34</sup>, -C(S)N(R<sup>33</sup>)R<sup>34</sup>,  
-C(O)N(R<sup>33</sup>)S(O)<sub>2</sub>R<sup>23</sup>, -C(S)N(R<sup>33</sup>)S(O)<sub>2</sub>R<sup>23</sup>, -C(O)N(R<sup>35</sup>)N(R<sup>33</sup>)R<sup>34</sup>, -C(S)N(R<sup>35</sup>)N(R<sup>33</sup>)R<sup>34</sup> and  
-C(O)N(R<sup>35</sup>)N(R<sup>33</sup>)S(O)<sub>2</sub>R<sup>23</sup>;

where R<sup>23</sup> is optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted aryl, optionally substituted aralkyl, optionally substituted heterocyclyl, optionally substituted heteroaryl, or optionally substituted heteroaralkyl; and

where R<sup>32</sup>, R<sup>33</sup>, R<sup>34</sup>, R<sup>35</sup> and R<sup>36</sup> are selected as in (a) or (b) as follows: (a) R<sup>32</sup>, R<sup>33</sup>, R<sup>34</sup>, R<sup>35</sup> and R<sup>36</sup> are each independently hydrogen, optionally substituted alkyl, optionally substituted

alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted aryl, optionally substituted aralkyl, optionally substituted heterocyclyl, optionally substituted heteroaryl, or optionally substituted heteroaralkyl; or (b)  $R^{33}$  and  $R^{34}$ , together with the nitrogen atom to which they are attached, form an optionally substituted heterocyclyl ring, or an optionally substituted heteroaryl ring, and the others of  $R^{32}$ ,  $R^{33}$ ,  $R^{34}$ ,  $R^{35}$  and  $R^{36}$  are selected as in (a) above.

13. (Original) The compound of Claim 12 wherein  $R^1$  is  $-C(O)OCH_2CH_3$ ,  $-C(O)OCH_3$ ,  $-C(O)OCH(CH_3)_2$ ,  $-C(O)OH$ ,  $-C(O)OCH_2CH_2CH_3$ ,  $-C(O)NHCH_3$ ,  $-C(O)NHCH_2CH_3$ ,  $-C(O)NHCH(CH_3)_2$ ,  $-C(O)NH(cyclopropyl)$ ,  $-C(O)NH(cyclopentyl)$ ,  $-C(O)NCH(CH_3)(CH_2CH_3)$  or  $-C(O)N(CH_3)(cyclopropyl)$ .

14. (Original) The compound of Claim 6 wherein:

Z is  $CR^{31}$ ; and

$R^{31}$  is independently selected from a group consisting of halo, hydrogen, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted cycloalkylalkyl, optionally substituted heterocyclyl, optionally substituted heterocyclylalkyl, optionally substituted aryl, optionally substituted aralkyl, optionally substituted heteroaryl, optionally substituted heteroaralkyl,  $-OR^{32}$ ,  $-SR^{32}$ ,  $-N(R^{33})R^{34}$ ,  $-N(R^{33})S(O)_2R^{23}$ ,  $-N(R^{35})N(R^{33})R^{34}$ ,  $-N(R^{35})N(R^{33})S(O)_2R^{23}$ ,  $-C(O)R^{36}$ ,  $-C(O)OR^{32}$ ,  $-C(S)OR^{32}$ ,  $-C(O)SR^{32}$ ,  $-C(O)N(R^{33})R^{34}$ ,  $-C(S)N(R^{33})R^{34}$ ,  $-C(O)N(R^{33})S(O)_2R^{23}$ ,  $-C(S)N(R^{33})S(O)_2R^{23}$ ,  $-C(O)N(R^{35})N(R^{33})R^{34}$ ,  $-C(S)N(R^{35})N(R^{33})R^{34}$  and  $-C(O)N(R^{35})N(R^{33})S(O)_2R^{23}$ ;

where  $R^{23}$  is optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted aryl, optionally substituted aralkyl, optionally substituted heterocyclyl, optionally substituted heteroaryl, or optionally substituted heteroaralkyl; and

where  $R^{32}$ ,  $R^{33}$ ,  $R^{34}$ ,  $R^{35}$  and  $R^{36}$  are selected as in (a) or (b) as follows: (a)  $R^{32}$ ,  $R^{33}$ ,  $R^{34}$ ,  $R^{35}$  and  $R^{36}$  are each independently hydrogen, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted aryl, optionally substituted aralkyl, optionally substituted heterocyclyl, optionally substituted heteroaryl, or optionally substituted heteroaralkyl; or (b)  $R^{33}$  and  $R^{34}$ , together with the nitrogen atom to which they are attached, form an optionally substituted heterocyclyl ring, or an optionally substituted heteroaryl ring, and the others of  $R^{32}$ ,  $R^{33}$ ,  $R^{34}$ ,  $R^{35}$  and  $R^{36}$  are selected as in (a) above.

15. (Original) The compound of Claim 14 wherein:

Z is  $CR^{31}$ ; and

$R^{31}$  is independently selected from a group consisting of optionally substituted aryl, optionally substituted aralkyl, optionally substituted heteroaryl, optionally substituted heteroaralkyl, optionally substituted cycloalkyl, optionally substituted heterocyclyl,  $-C(O)R^{36}$ ,  $-C(O)OR^{32}$ ,  $-C(S)OR^{32}$ ,  $-C(O)SR^{32}$ ,  $-C(O)N(R^{33})R^{34}$ ,  $-C(S)N(R^{33})R^{34}$ ,  $-C(O)N(R^{33})S(O)_2R^{23}$ ,  $-C(S)N(R^{33})S(O)_2R^{23}$ ,  $-C(O)N(R^{35})N(R^{33})R^{34}$ ,  $-C(S)N(R^{35})N(R^{33})R^{34}$  and  $-C(O)N(R^{35})N(R^{33})S(O)_2R^{23}$ ;

where  $R^{23}$  is optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted aryl, optionally substituted aralkyl, optionally substituted heterocyclyl, optionally substituted heteroaryl, or optionally substituted heteroaralkyl; and

where  $R^{32}$ ,  $R^{33}$ ,  $R^{34}$ ,  $R^{35}$  and  $R^{36}$  are selected as in (a) or (b) as follows: (a)  $R^{32}$ ,  $R^{33}$ ,  $R^{34}$ ,  $R^{35}$  and  $R^{36}$  are each independently hydrogen, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted aryl, optionally substituted aralkyl, optionally substituted heterocyclyl, optionally substituted heteroaryl, or optionally substituted heteroaralkyl; or (b)  $R^{33}$  and  $R^{34}$ , together with the nitrogen atom to which they are attached, form an optionally substituted heterocyclyl ring, or an optionally substituted heteroaryl ring, and the others of  $R^{32}$ ,  $R^{33}$ ,  $R^{34}$ ,  $R^{35}$  and  $R^{36}$  are selected as in (a) above.

16. (Original) The compound of Claim 14 wherein X is O or  $S(O)_t$  (where t is 0 to 2).

17. (Original) The compound of Claim 16 wherein  $R^4$ ,  $R^5$ ,  $R^6$  and  $R^7$  are each independently hydrogen or halo; and

$R^{30}$  is selected from the group consisting of hydrogen, halo,  $-C(O)R^{36}$ ,  $-C(O)OR^{32}$ ,  $-C(S)OR^{32}$ ,  $-C(O)SR^{32}$ ,  $-C(O)N(R^{33})R^{34}$ ,  $-C(S)N(R^{33})R^{34}$ ,  $-C(O)N(R^{33})S(O)_2R^{23}$ ,  $-C(S)N(R^{33})S(O)_2R^{23}$ ,  $-C(O)N(R^{35})N(R^{33})R^{34}$ ,  $-C(S)N(R^{35})N(R^{33})R^{34}$  and  $-C(O)N(R^{35})N(R^{33})S(O)_2R^{23}$ ;

where  $R^{23}$  is optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted aryl, optionally substituted aralkyl, optionally substituted heterocyclyl, optionally substituted heteroaryl, or optionally substituted heteroaralkyl; and

where  $R^{32}$ ,  $R^{33}$ ,  $R^{34}$ ,  $R^{35}$  and  $R^{36}$  are selected as in (a) or (b) as follows: (a)  $R^{32}$ ,  $R^{33}$ ,  $R^{34}$ ,  $R^{35}$  and  $R^{36}$  are each independently hydrogen, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted aryl, optionally substituted aralkyl, optionally substituted heterocyclyl, optionally substituted

- heteroaryl, or optionally substituted heteroaralkyl; or (b)  $R^{33}$  and  $R^{34}$ , together with the nitrogen atom to which they are attached, form an optionally substituted heterocycl ring, or an optionally substituted heteroaryl ring, and the others of  $R^{32}$ ,  $R^{33}$ ,  $R^{34}$ ,  $R^{35}$  and  $R^{36}$  are selected as in (a) above.
18. (Original) The compound of Claim 17 wherein said compound is  
6-(3,4-difluoro-benzoyl)-5,6-dihydro-4H-thieno[2,3-d] azepine-8-carboxylic acid ethyl ester.
19. (Original) The compound of Claim 16 wherein:  
 $R^4$  and  $R^5$  are each independently hydrogen or halo; and  
 $R^6$  and  $R^7$  are optionally substituted alkyl; and  
 $R^6$  and  $R^7$ , together with the carbon to which they are attached, independently form an optionally substituted cycloalkyl ring.
20. (Original) The compound of Claim 19 wherein:  
 $R^2$  is hydrogen, halo or optionally substituted alkyl; and  
 $R^9$  is hydrogen.
21. (Original) The compound of Claim 20 wherein  $R^{30}$  is selected from the group consisting of  
-C(O) $R^{36}$ , -C(O)OR<sup>32</sup>, -C(S)OR<sup>32</sup>, -C(O)SR<sup>32</sup>, -C(O)N( $R^{33}$ ) $R^{34}$ , -C(S)N( $R^{33}$ ) $R^{34}$ ,  
-C(O)N( $R^{33}$ )S(O) $R^{23}$ , -C(S)N( $R^{33}$ )S(O) $R^{23}$ , -C(O)N( $R^{35}$ )N( $R^{33}$ ) $R^{34}$ , -C(S)N( $R^{35}$ )N( $R^{33}$ ) $R^{34}$  and  
-C(O)N( $R^{35}$ )N( $R^{33}$ )S(O) $R^{23}$ ;  
where  $R^{23}$  is optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted aryl, optionally substituted aralkyl, optionally substituted heterocycl ring, optionally substituted heteroaryl, or optionally substituted heteroaralkyl; and  
where  $R^{32}$ ,  $R^{33}$ ,  $R^{34}$ ,  $R^{35}$  and  $R^{36}$  are selected as in (a) or (b) as follows: (a)  $R^{32}$ ,  $R^{33}$ ,  $R^{34}$ ,  $R^{35}$  and  $R^{36}$  are each independently hydrogen, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted aryl, optionally substituted aralkyl, optionally substituted heterocycl ring, optionally substituted heteroaryl, or optionally substituted heteroaralkyl; or (b)  $R^{33}$  and  $R^{34}$ , together with the nitrogen atom to which they are attached, form an optionally substituted heterocycl ring, or an optionally substituted heteroaryl ring, and the others of  $R^{32}$ ,  $R^{33}$ ,  $R^{34}$ ,  $R^{35}$  and  $R^{36}$  are selected as in (a) above.
22. (Original) The compound of Claim 21 wherein  $R^1$  is -C(O)OCH<sub>2</sub>CH<sub>3</sub>, -C(O)OCH<sub>3</sub>, -C(O)OCH(CH<sub>3</sub>)<sub>2</sub>, -C(O)OH, -C(O)OCH<sub>2</sub>CH<sub>2</sub>CH<sub>3</sub>, -C(O)NHCH<sub>3</sub>, -C(O)NHCH<sub>2</sub>CH<sub>3</sub>, -C(O)NHCH(CH<sub>3</sub>)<sub>2</sub>,

-C(O)NH(cyclopropyl), -C(O)NH(cyclopentyl), -C(O)NCH(CH<sub>3</sub>)(CH<sub>2</sub>CH<sub>3</sub>) or -C(O)N(CH<sub>3</sub>)(cyclopropyl); and

R<sup>3</sup> is -C(O)R<sup>10</sup> wherein R<sup>10</sup> is optionally substituted aryl, optionally substituted heteroaryl, optionally substituted alkyl or optionally substituted aralkyl.

23. (Currently amended) The compound of Claim 22 wherein said compound is

6-(3,4-difluoro-benzoyl)-4,4-dimethyl-5,6-dihydro-4H-thieno[2,3-d]azepine-8-carboxylic acid ethyl ester; or

24. (Original) The compound of Claim 14 wherein

X is NR<sup>9</sup>;

R<sup>9</sup> is hydrogen, optionally substituted alkyl, -C(O)R<sup>18</sup> or -S(O)<sub>2</sub>R<sup>23</sup>; and R<sup>18</sup> and R<sup>23</sup> each independently optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted aryl, optionally substituted aralkyl, optionally substituted heterocyclyl, optionally substituted heteroaryl, or optionally substituted heteroaralkyl.

25. (Original) The compound of Claim 24 wherein:

R<sup>4</sup> and R<sup>5</sup> are each independently hydrogen or halo; and

R<sup>6</sup> and R<sup>7</sup> are optionally substituted alkyl; or

R<sup>6</sup> and R<sup>7</sup>, together with the carbon to which they are attached, independently form an optionally substituted cycloalkyl ring.

26. (Original) The compound of Claim 25 wherein:

R<sup>2</sup> is hydrogen, halo or optionally substituted alkyl; and

R<sup>9</sup> is hydrogen.

27. (Original) The compound of Claim 26 wherein R<sup>30</sup> is selected from the group consisting of

-C(O)R<sup>36</sup>, -C(O)OR<sup>32</sup>, -C(S)OR<sup>32</sup>, -C(O)SR<sup>32</sup>, -C(O)N(R<sup>33</sup>)R<sup>34</sup>, -C(S)N(R<sup>33</sup>)R<sup>34</sup>, -C(O)N(R<sup>33</sup>)S(O)<sub>2</sub>R<sup>23</sup>, -C(S)N(R<sup>33</sup>)S(O)<sub>2</sub>R<sup>23</sup>, -C(O)N(R<sup>35</sup>)N(R<sup>33</sup>)R<sup>34</sup>, -C(S)N(R<sup>35</sup>)N(R<sup>33</sup>)R<sup>34</sup> and -C(O)N(R<sup>35</sup>)N(R<sup>33</sup>)S(O)<sub>2</sub>R<sup>23</sup>;

where R<sup>23</sup> is optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted aryl, optionally substituted aralkyl, optionally substituted heterocyclyl, optionally substituted heteroaryl, or optionally substituted heteroaralkyl; and

where  $R^{32}$ ,  $R^{33}$ ,  $R^{34}$ ,  $R^{35}$  and  $R^{36}$  are selected as in (a) or (b) as follows: (a)  $R^{32}$ ,  $R^{33}$ ,  $R^{34}$ ,  $R^{35}$  and  $R^{36}$  are each independently hydrogen, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted aryl, optionally substituted aralkyl, optionally substituted heterocyclyl, optionally substituted heteroaryl, or optionally substituted heteroaralkyl; or (b)  $R^{33}$  and  $R^{34}$ , together with the nitrogen atom to which they are attached, form an optionally substituted heterocyclyl ring, or an optionally substituted heteroaryl ring, and the others of  $R^{32}$ ,  $R^{33}$ ,  $R^{34}$ ,  $R^{35}$  and  $R^{36}$  are selected as in (a) above.

28. (Original) The compound of Claim 27 wherein  $R^1$  is  $-C(O)OCH_2CH_3$ ,  $-C(O)OCH_3$ ,  $-C(O)OCH(CH_3)_2$ ,  $-C(O)OH$ ,  $-C(O)OCH_2CH_2CH_3$ ,  $-C(O)NHCH_3$ ,  $-C(O)NHCH_2CH_3$ ,  $-C(O)NHCH(CH_3)_2$ ,  $-C(O)NH(cyclopropyl)$ ,  $-C(O)NH(cyclopentyl)$ ,  $-C(O)NCH(CH_3)(CH_2CH_3)$  or  $-C(O)N(CH_3)(cyclopropyl)$ ; and

$R^3$  is  $-C(O)R^{10}$  wherein  $R^{10}$  is optionally substituted aryl, optionally substituted heteroaryl, optionally substituted alkyl or optionally substituted aralkyl.

29. (Original) The compound of Claim 28 wherein said compound is selected from the group consisting of:

6-(3,4-difluoro-benzoyl)-4,4-dimethyl-1,4,5,6-tetrahydro-pyrrolo[2,3-d]azepine-2,8-dicarboxylic acid diethyl ester; and

6-(3,4-difluoro-benzoyl)-4,4-dimethyl-1,4,5,6-tetrahydro-pyrrolo[2,3-d]azepine-2,8-dicarboxylic acid 2-ethyl ester 8-isopropyl ester.

30. (Original) The compound of Claim 29 wherein:

$R^4$ ,  $R^5$ ,  $R^6$  and  $R^7$  are each independently hydrogen or halo; and

$R^{30}$  is selected from the group consisting of hydrogen, halo,  $-C(O)R^{36}$ ,  $-C(O)OR^{32}$ ,  $-C(S)OR^{32}$ ,  $-C(O)SR^{32}$ ,  $-C(O)N(R^{33})R^{34}$ ,  $-C(S)N(R^{33})R^{34}$ ,  $-C(O)N(R^{33})S(O)_2R^{23}$ ,  $-C(S)N(R^{33})S(O)_2R^{23}$ ,  $-C(O)N(R^{35})N(R^{33})R^{34}$ ,  $-C(S)N(R^{35})N(R^{33})R^{34}$  and  $-C(O)N(R^{35})N(R^{33})S(O)_2R^{23}$ ;

where  $R^{23}$  is optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted aryl, optionally substituted aralkyl, optionally substituted heterocyclyl, optionally substituted heteroaryl, or optionally substituted heteroaralkyl; and

where  $R^{32}$ ,  $R^{33}$ ,  $R^{34}$ ,  $R^{35}$  and  $R^{36}$  are selected as in (a) or (b) as follows: (a)  $R^{32}$ ,  $R^{33}$ ,  $R^{34}$ ,  $R^{35}$  and  $R^{36}$  are each independently hydrogen, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted

aryl, optionally substituted aralkyl, optionally substituted heterocyclyl, optionally substituted heteroaryl, or optionally substituted heteroaralkyl; or (b)  $R^{33}$  and  $R^{34}$ , together with the nitrogen atom to which they are attached, form an optionally substituted heterocyclyl ring, or an optionally substituted heteroaryl ring, and the others of  $R^{32}$ ,  $R^{33}$ ,  $R^{34}$ ,  $R^{35}$  and  $R^{36}$  are selected as in (a) above.

31. (Original) The compound of Claim 30 wherein said compound is

6-(3,4-difluoro-benzoyl)-1,4,4-trimethyl-1,4,5,6-tetrahydro-pyrrolo[2,3-d]azepine-2,8-dicarboxylic acid 2-ethyl ester 8-isopropyl ester.

32. (Original) The compound of Claim 5 wherein:

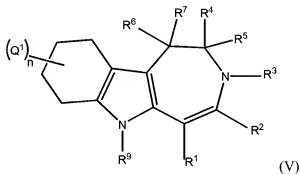
Y is  $CR^{30}$ ;

Z is  $CR^{31}$ ; and

$R^{30}$  and  $R^{31}$  together with the carbon atoms to which they are attached, form an optionally substituted cycloalkyl ring, optionally substituted cycloalkenyl ring, optionally substituted cycloalkynyl ring, optionally substituted heterocyclyl ring, optionally substituted heteroaryl ring or optionally substituted aryl ring with the exception of substituted or unsubstituted phenyl and substituted or unsubstituted naphthyl.

33. (Original) The compound of claim 32 wherein said optionally substituted cycloalkyl ring is optionally substituted cyclopentyl, optionally substituted cyclohexyl, optionally substituted cycloheptyl or optionally substituted cyclooctyl.

34. (Currently amended) A compound having the formula (V):



or a pharmaceutically acceptable salts, esters, enol ethers, enol esters, acetals, ketals, orthoesters, hemiacetals, hemiketals, acids, and bases, thereof derivative thereof, wherein:

n is 0 to 8;

$R^1$  and  $R^2$  are each independently selected from a group consisting of halo, hydrogen, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl,

optionally substituted aryl, optionally substituted heteroaryl, optionally substituted cycloalkyl, optionally substituted heterocyclyl, optionally substituted aralkyl, optionally substituted heteroaralkyl, -OR<sup>14</sup>, -SR<sup>14</sup>, -N(R<sup>15</sup>)R<sup>16</sup>, -N(R<sup>15</sup>)S(O)<sub>2</sub>R<sup>23</sup>, -N(R<sup>17</sup>)N(R<sup>15</sup>)R<sup>16</sup>, -N(R<sup>17</sup>)N(R<sup>15</sup>)S(O)<sub>2</sub>R<sup>23</sup>, -C(O)R<sup>18</sup>, -C(O)OR<sup>14</sup>, -C(S)OR<sup>14</sup>, -C(O)SR<sup>14</sup>, -C(O)N(R<sup>15</sup>)R<sup>16</sup>, -C(O)N(R<sup>15</sup>)S(O)<sub>2</sub>R<sup>23</sup>, -C(O)N(R<sup>15</sup>)N=R<sup>16</sup>, -C(O)N(R<sup>17</sup>)N(R<sup>15</sup>)R<sup>16</sup> and -C(O)N(R<sup>17</sup>)N(R<sup>15</sup>)S(O)<sub>2</sub>R<sup>23</sup>;

R<sup>3</sup> is hydrogen, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted aryl, optionally substituted aralkyl, optionally substituted heteroaryl, optionally substituted heterocyclyl, optionally substituted heteroaralkyl, -C(O)R<sup>10</sup>, -C(O)OR<sup>10</sup>, -S(O)<sub>2</sub>R<sup>10</sup>, -C(O)N(R<sup>11</sup>)R<sup>12</sup>, -C(O)N(R<sup>11</sup>)S(O)<sub>2</sub>R<sup>23</sup>, -C(O)N(R<sup>13</sup>)N(R<sup>11</sup>)R<sup>12</sup>, -C(O)N(R<sup>13</sup>)N(R<sup>11</sup>)S(O)<sub>2</sub>R<sup>23</sup>, -N(R<sup>13</sup>)C(O)R<sup>10</sup>, -N(R<sup>13</sup>)C(O)N(R<sup>11</sup>)R<sup>12</sup>, -N(R<sup>13</sup>)C(O)N(R<sup>11</sup>)S(O)<sub>2</sub>R<sup>23</sup>, -N(R<sup>10</sup>)C(O)N(R<sup>13</sup>)N(R<sup>11</sup>)R<sup>12</sup>, -N(R<sup>10</sup>)C(O)N(R<sup>13</sup>)N(R<sup>11</sup>)S(O)<sub>2</sub>R<sup>23</sup>, -N(R<sup>13</sup>)C(O)OR<sup>10</sup>, -P(O)OR<sup>10</sup>, or -P(O)(OR<sup>19</sup>)OR<sup>12</sup>;

R<sup>4</sup>, R<sup>5</sup>, R<sup>6</sup> and R<sup>7</sup> are each independently selected from a group consisting of hydrogen, halo, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted aryl, optionally substituted heteroaryl, optionally substituted cycloalkyl, optionally substituted heterocyclyl, optionally substituted aralkyl, optionally substituted heteroaralkyl, -OR<sup>14</sup>, -SR<sup>14</sup>, -S(O)<sub>2</sub>R<sup>14</sup>, -N(R<sup>15</sup>)R<sup>16</sup>, -N(R<sup>15</sup>)S(O)<sub>2</sub>R<sup>23</sup>, -N(R<sup>15</sup>)C(O)R<sup>23</sup>, -C(O)R<sup>18</sup>, -C(O)OR<sup>20</sup>, -C(O)N(R<sup>21</sup>)R<sup>22</sup>, -C(O)N(R<sup>21</sup>)S(O)<sub>2</sub>R<sup>23</sup>, -C(O)N(R<sup>24</sup>)N(R<sup>21</sup>)R<sup>22</sup> and -C(O)N(R<sup>24</sup>)N(R<sup>21</sup>)S(O)<sub>2</sub>R<sup>23</sup>; or

R<sup>4</sup> and R<sup>5</sup>, or R<sup>4</sup> and R<sup>6</sup>, or R<sup>4</sup> and R<sup>7</sup>, or R<sup>5</sup> and R<sup>6</sup>, or R<sup>5</sup> and R<sup>7</sup>, or R<sup>6</sup> and R<sup>7</sup>, together with the carbon atom to which they are attached, form an optionally substituted cycloalkyl ring, optionally substituted heterocyclyl ring, an optionally substituted cycloalkenyl ring or together form a double bond, and the others of R<sup>4</sup>, R<sup>5</sup>, R<sup>6</sup> and R<sup>7</sup> are as described above; or R<sup>6</sup> and R<sup>7</sup> together form an oxo, thioxo, optionally substituted imino, optionally substituted oxime or an optionally substituted hydrazone, or R<sup>6</sup> and R<sup>7</sup>, together with the carbon atom to which they are attached, form an optionally substituted exocyclic double bond, and R<sup>4</sup> and R<sup>5</sup> are as described above;

R<sup>9</sup> is hydrogen, optionally substituted alkyl, -C(O)R<sup>18</sup> or -S(O)<sub>2</sub>R<sup>23</sup>;

R<sup>10</sup>, R<sup>11</sup>, R<sup>12</sup>, R<sup>13</sup> and R<sup>19</sup> are selected as in (a) or (b) as follows: (a) R<sup>10</sup>, R<sup>11</sup>, R<sup>12</sup>, R<sup>13</sup> and R<sup>19</sup> each independently hydrogen, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted aryl, optionally substituted aralkyl, optionally substituted heterocyclyl, optionally substituted



heteroaryl, or optionally substituted heteroaralkyl; or (b) R<sup>11</sup> and R<sup>12</sup> or R<sup>12</sup> and R<sup>19</sup>, together with the atoms to which they are attached, form an optionally substituted heterocyclyl ring or an optionally substituted heteroaryl ring; and the others of R<sup>10</sup>, R<sup>11</sup>, R<sup>12</sup>, R<sup>13</sup> and R<sup>19</sup> are selected as in (a), above;

R<sup>14</sup>, R<sup>15</sup>, R<sup>16</sup>, R<sup>17</sup> and R<sup>18</sup> are selected as in (a) or (b) as follows: (a) R<sup>14</sup>, R<sup>15</sup>, R<sup>16</sup>, R<sup>17</sup> and R<sup>18</sup> are each independently hydrogen, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted aryl, optionally substituted aralkyl, optionally substituted heterocyclyl, optionally substituted heteroaryl, or optionally substituted heteroaralkyl; or (b) R<sup>15</sup> and R<sup>16</sup>, together with the nitrogen atom to which they are attached, form an optionally substituted heterocyclyl ring, or an optionally substituted heteroaryl ring, and the others of R<sup>14</sup>, R<sup>15</sup>, R<sup>16</sup>, R<sup>17</sup> and R<sup>18</sup> are selected as in (a) above;

R<sup>20</sup>, R<sup>21</sup>, R<sup>22</sup> and R<sup>24</sup> are selected as in (a) or (b) as follows: (a) R<sup>20</sup>, R<sup>21</sup>, R<sup>22</sup> and R<sup>24</sup> are each independently hydrogen, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted aryl, optionally substituted aralkyl, optionally substituted heterocyclyl, optionally substituted heteroaryl, or optionally substituted heteroaralkyl; or (b) R<sup>21</sup> and R<sup>22</sup>, together with the nitrogen atom to which they are attached, form an optionally substituted heterocyclyl ring, or an optionally substituted heteroaryl ring, and the others of R<sup>20</sup>, R<sup>21</sup>, R<sup>22</sup> and R<sup>24</sup> are selected as in (a) above;

R<sup>23</sup> is optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted aryl, optionally substituted aralkyl, optionally substituted heterocyclyl, optionally substituted heteroaryl, or optionally substituted heteroaralkyl;

each of R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, R<sup>4</sup>, R<sup>5</sup>, R<sup>6</sup>, R<sup>7</sup>, R<sup>8</sup>, R<sup>9</sup>, R<sup>10</sup>, R<sup>11</sup>, R<sup>12</sup>, R<sup>13</sup>, R<sup>14</sup>, R<sup>15</sup>, R<sup>16</sup>, R<sup>17</sup>, R<sup>18</sup>, R<sup>19</sup>, R<sup>20</sup>, R<sup>21</sup>, R<sup>22</sup>, R<sup>23</sup>, and R<sup>24</sup>-R<sup>24</sup>-, when substituted, are substituted with one or more substituents, each independently selected from Q<sup>1</sup>;

each Q<sup>1</sup> is independently selected from halo, pseudohalo, oxo, thioxo, cyano, thiocycano, isocyano, nitro, azido, alkyl, haloalkyl, alkenyl containing 1 to 2 double bonds, alkynyl containing 1 to 2 triple bonds, cycloalkyl, cycloalkenyl, cycloalkynyl, cycloalkylalkyl, heterocyclyl, heterocyclylalkyl, aryl, heteroaryl, aralkyl, aralkenyl, aralkynyl, heteroarylalkyl, alkylidene, arylalkylidene, aryloxyarylcabonylamino, hydroxycarbonylalkylthio, halosulfonyl, -OR<sup>70</sup>, -SR<sup>70</sup>, -R<sup>60</sup>-C(J)R<sup>71</sup>, -R<sup>60</sup>-N(R<sup>70</sup>)C(J)R<sup>71</sup>, -OC(O)R<sup>71</sup>, -R<sup>60</sup>-N(R<sup>75</sup>)(R<sup>76</sup>), -N<sup>+</sup>(R<sup>77</sup>)<sub>3</sub>, -P(R<sup>78</sup>)<sub>2</sub>, -P(O)(R<sup>78</sup>)<sub>2</sub>, -OP(O)(R<sup>78</sup>)<sub>2</sub>, -N(R<sup>70</sup>)S(O)<sub>2</sub>R<sup>71</sup>, -S(O)<sub>2</sub>R<sup>71</sup>, -S(O)R<sup>82</sup>, -OS(O)R<sup>83</sup>, -OS(O)<sub>2</sub>R<sup>83</sup> or -Si(R<sup>83</sup>)<sub>3</sub>;

two Q<sup>1</sup> groups, which substitute atoms in a 1,2 or 1,3 arrangement, together with the carbon atoms to which they are attached form a cycloalkyl ring, cycloalkenyl ring, cycloalkynyl ring or heterocyclyl ring; or

each Q<sup>1</sup> is independently substituted or unsubstituted with one or more substituents each independently selected from Q<sup>2</sup>;

each Q<sup>2</sup> is independently selected from halo, pseudohalo, oxo, thioxo, cyano, thiocyno, isocyno, nitro, azido, alkyl, haloalkyl, alkenyl containing 1 to 2 double bonds, alkynyl containing 1 to 2 triple bonds, cycloalkyl, cycloalkenyl, cycloalkynyl, cycloalkylalkyl, heterocyclyl, heterocyclylalkyl, aryl, heteroaryl, aralkyl, aralkenyl, aralkynyl, heteroarylalkyl, alkylidene, arylalkylidene, aryloxyarylcabonylamino, hydroxycarbonylalkylthio, halosulfonyl, -OR<sup>70</sup>, -SR<sup>70</sup>, -R<sup>60</sup>-C(J)R<sup>71</sup>, -R<sup>60</sup>-N(R<sup>70</sup>)C(J)R<sup>71</sup>, -OC(O)R<sup>71</sup>, -R<sup>60</sup>-N(R<sup>75</sup>)(R<sup>76</sup>), -N<sup>+</sup>(R<sup>77</sup>)<sub>3</sub>, -P(R<sup>78</sup>)<sub>2</sub>, -P(O)(R<sup>78</sup>)<sub>2</sub>, -OP(O)(R<sup>78</sup>)<sub>2</sub>, -N(R<sup>70</sup>)S(O)<sub>2</sub>R<sup>71</sup>, -S(O)<sub>2</sub>R<sup>71</sup>, -S(O)R<sup>82</sup>, -OS(O)R<sup>83</sup>, -OS(O)<sub>2</sub>R<sup>83</sup> or -Si(R<sup>83</sup>)<sub>3</sub>;

two Q<sup>2</sup> groups, which substitute atoms in a 1,2 or 1,3 arrangement, together with the carbon atoms to which they are attached form a cycloalkyl ring, cycloalkenyl ring, cycloalkynyl ring or heterocyclyl ring;

each J is independently O, S or -NR<sup>70</sup>;

each R<sup>60</sup> is independently a direct bond or alkylene;

each R<sup>70</sup> is independently hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, aralkyl, haloalkyl, heterocyclylalkyl or heteroaralkyl;

each R<sup>71</sup> is independently hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, aralkyl, haloalkyl, heterocyclylalkyl, heteroaralkyl, -OR<sup>72</sup> or -N(R<sup>73</sup>)R<sup>74</sup>;

R<sup>72</sup>, R<sup>73</sup> and R<sup>74</sup> are each independently hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, aralkyl or heteroaralkyl; or

R<sup>73</sup> and R<sup>74</sup>, together with the nitrogen atom to which they are attached, form a heterocyclyl ring or heteroaryl ring;

R<sup>75</sup> and R<sup>76</sup> are each independently hydrogen, alkyl, alkenyl, alkynyl, aryl, aralkyl, heteroaryl, heteroaralkyl, heterocyclyl or heterocyclylalkyl; or

R<sup>75</sup> and R<sup>76</sup>, together with the nitrogen atom to which they are attached, form a heterocyclyl ring or heteroaryl ring;

each R<sup>77</sup> is independently alkyl, alkenyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, aralkyl or heteroaralkyl;

R<sup>78</sup> is alkyl, heteroaryl, heterocyclyl, aryl, -OR<sup>79</sup> or -N(R<sup>80</sup>)R<sup>81</sup>;

R<sup>79</sup> is hydrogen, alkyl, alkenyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, aralkyl or heteroaralkyl;

R<sup>80</sup> and R<sup>81</sup> are each independently hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, aralkyl or heteroaralkyl; or

R<sup>80</sup> and R<sup>81</sup>, together with the nitrogen atom to which they are attached, form a heterocyclyl ring or heteroaryl ring;

R<sup>82</sup> is alkyl, alkenyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, aralkyl, heteroaralkyl or -OR<sup>83</sup>; and

each R<sup>83</sup> is independently alkyl, alkenyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, aralkyl or heteroaralkyl.

35. (Original) The compound of Claim 34 wherein:

R<sup>3</sup> is -C(O)R<sup>10</sup>;

wherein R<sup>10</sup> is optionally substituted aryl, optionally substituted heteroaryl, optionally substituted alkyl or optionally substituted aralkyl.

36. (Original) The compound of Claim 35 wherein:

R<sup>1</sup> is -C(O)R<sup>18</sup>, -C(O)OR<sup>14</sup> or -C(O)N(R<sup>15</sup>)R<sup>16</sup>, where R<sup>14</sup> and R<sup>15</sup> are optionally substituted alkyl, optionally substituted cycloalkyl, or optionally substituted heterocyclyl, R<sup>16</sup> is hydrogen, and R<sup>18</sup> is optionally substituted alkyl.

37. (Original) The compound of Claim 36 wherein:

R<sup>2</sup> is halo, hydrogen, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted aryl, optionally substituted heteroaryl, optionally substituted cycloalkyl, optionally substituted heterocyclyl, optionally substituted aralkyl or optionally substituted heteroaralkyl.

38. (Original) The compound of Claim 37 wherein:

R<sup>2</sup> is hydrogen, halo or optionally substituted alkyl; and

R<sup>3</sup> is hydrogen or optionally substituted alkyl.

39. (Original) The compound of Claim 38 wherein R<sup>4</sup>, R<sup>5</sup>, R<sup>6</sup> and R<sup>7</sup> are selected from a), b), c), d), e), f), g) and h) below:

a) R<sup>4</sup> and R<sup>5</sup> are each independently hydrogen or halo and R<sup>6</sup> and R<sup>7</sup> are optionally substituted alkyl;

- b)  $R^6$  and  $R^7$  are each independently hydrogen or halo and  $R^4$  and  $R^5$  are optionally substituted alkyl;
- c)  $R^4$ ,  $R^5$ ,  $R^6$  and  $R^7$  are each optionally substituted alkyl;
- d)  $R^4$  and  $R^5$  are each independently hydrogen or halo and  $R^6$  and  $R^7$ , together with the carbon to which they are attached, independently form an optionally substituted cycloalkyl or optionally substituted cycloalkenyl ring.
- e)  $R^4$  and  $R^5$  are optionally substituted alkyl and  $R^6$  and  $R^7$ , together with the carbon to which they are attached, independently form an optionally substituted cycloalkyl or optionally substituted cycloalkenyl ring
- f)  $R^4$  and  $R^5$ , together with the carbon to which they are attached, independently form an optionally substituted cycloalkyl or optionally substituted cycloalkenyl ring and  $R^6$  and  $R^7$  are each independently hydrogen or halo;
- g)  $R^4$  and  $R^5$ , together with the carbon to which they are attached, independently form an optionally substituted cycloalkyl or optionally substituted cycloalkenyl ring and  $R^6$  and  $R^7$  are optionally substituted alkyl;
- h)  $R^4$  and  $R^5$ , together with the carbon to which they are attached, independently form an optionally substituted cycloalkyl ring or optionally substituted cycloalkenyl ring and  $R^6$  and  $R^7$ , together with the carbon to which they are attached, independently form an optionally substituted cycloalkyl ring or optionally substituted cycloalkenyl ring; and
- i)  $R^4$ ,  $R^5$ ,  $R^6$  and  $R^7$  are each independently hydrogen or halo.

40. (Original) The compound of Claim 39 wherein:

$R^4$  and  $R^5$  are each independently hydrogen or halo; and

$R^6$  and  $R^7$  are optionally substituted alkyl; or

$R^6$  and  $R^7$ , together with the carbon to which they are attached, independently form an optionally substituted cycloalkyl ring.

41. (Original) The compound of Claim 40 wherein:

$R^2$  is hydrogen, halo or optionally substituted alkyl; and

$R^9$  is hydrogen.

42. (Currently amended) The compound of Claim 44-34 wherein  $R^1$  is  $-C(O)OCH_2CH_3$ ,  $-C(O)OCH_3$ ,  $-C(O)OCH(CH_3)_2$ ,  $-C(O)OH$ ,  $-C(O)OCH_2CH_2CH_3$ ,  $-C(O)NHCH_3$ ,  $-C(O)NHCH_2CH_3$ ,  $-C(O)NHCH(CH_3)_2$ ,  $-C(O)NH(cyclopropyl)$ ,  $-C(O)NH(cyclopentyl)$ ,  $-C(O)NCH(CH_3)(CH_2CH_3)$  or  $-C(O)N(CH_3)(cyclopropyl)$ ; and

R<sup>2</sup> is hydrogen, halo or optionally substituted alkyl;

R<sup>3</sup> is -C(O)R<sup>10</sup> wherein R<sup>10</sup> is optionally substituted aryl, optionally substituted heteroaryl, optionally substituted alkyl or optionally substituted aralkyl;

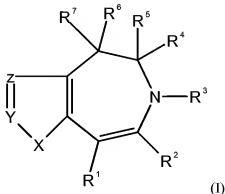
R<sup>4</sup> and R<sup>5</sup> are each independently hydrogen or halo; and

R<sup>6</sup> and R<sup>7</sup> are optionally substituted alkyl; or

R<sup>6</sup> and R<sup>7</sup>, together with the carbon to which they are attached, independently form an optionally substituted cycloalkyl ring.

R<sup>9</sup> is hydrogen.

43. (Original) The compound of Claim 42 wherein said compound is  
3-(4-fluoro-benzoyl)-1,1-dimethyl-1,2,3,6,7,8,9,10-octahydro-azepino[4,5-b]indole-5-carboxylic acid ethyl ester.
44. (Original) The compound of Claim 39 wherein R<sup>4</sup>, R<sup>5</sup>, R<sup>6</sup> and R<sup>7</sup> are each independently hydrogen or halo.
45. (Currently amended) The compound of Claim 44 wherein said compound is  
~~3-(4-fluoro-benzoyl)-1,2,3,4,5,6,7,8,9,10-decahydro-azepino[4,5-b]indole-5-carboxylic acid ethyl ester or~~  
3-(4-fluoro-benzoyl)-1,2,3,6,7,8,9,10-octahydro-azepino[4,5-b]indole-5-carboxylic acid ethyl ester.
46. (Currently amended) A pharmaceutical composition comprising a pharmaceutical carrier or vehicle and a compound having the formula (I):



wherein:

X is NR<sup>9</sup>, O or S(O)<sub>t</sub> (where t is 0 to 2);

Y is CR<sup>30</sup> or N;

Z is CR<sup>31</sup> or N;

R<sup>30</sup> and R<sup>31</sup> are each independently selected from the group consisting of halo, hydrogen, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted aryl, optionally substituted heteroaryl, optionally substituted cycloalkyl, optionally substituted cycloalkylalkyl, optionally substituted heterocyclyl, optionally substituted heterocyclylalkyl, optionally substituted aralkyl, optionally substituted heteroaralkyl, -OR<sup>32</sup>, -SR<sup>32</sup>, -N(R<sup>33</sup>)R<sup>34</sup>, -N(R<sup>33</sup>)S(O)<sub>2</sub>R<sup>23</sup>, -N(R<sup>35</sup>)N(R<sup>33</sup>)R<sup>34</sup>, -N(R<sup>35</sup>)N(R<sup>33</sup>)S(O)<sub>2</sub>R<sup>23</sup>, -C(O)R<sup>36</sup>, -C(O)OR<sup>32</sup>, -C(S)OR<sup>32</sup>, -C(O)SR<sup>32</sup>, -C(O)N(R<sup>33</sup>)R<sup>34</sup>, -C(S)N(R<sup>33</sup>)R<sup>34</sup>, -C(O)N(R<sup>33</sup>)S(O)<sub>2</sub>R<sup>23</sup>, -C(S)N(R<sup>33</sup>)S(O)<sub>2</sub>R<sup>23</sup>, -C(O)N(R<sup>35</sup>)N(R<sup>33</sup>)R<sup>34</sup>, -C(S)N(R<sup>35</sup>)N(R<sup>33</sup>)R<sup>34</sup> and -C(O)N(R<sup>35</sup>)N(R<sup>33</sup>)S(O)<sub>2</sub>R<sup>23</sup>; or

R<sup>30</sup> and R<sup>31</sup> together with the carbon atoms to which they are attached, form an optionally substituted cycloalkyl ring, optionally substituted cycloalkenyl ring, optionally substituted cycloalkynyl ring, optionally substituted heterocyclyl ring, optionally substituted heteroaryl ring, or optionally substituted aryl with the exception of substituted or unsubstituted phenyl or substituted or unsubstituted naphthyl;

R<sup>32</sup>, R<sup>33</sup>, R<sup>34</sup>, R<sup>35</sup> and R<sup>36</sup> are selected as in (a) or (b) as follows: (a) R<sup>32</sup>, R<sup>33</sup>, R<sup>34</sup>, R<sup>35</sup> and R<sup>36</sup> are each independently hydrogen, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted aryl, optionally substituted aralkyl, optionally substituted heterocyclyl, optionally substituted heteroaryl, or optionally substituted heteroaralkyl; or (b) R<sup>33</sup> and R<sup>34</sup>, together with the nitrogen atom to which they are attached, form an optionally substituted heterocyclyl ring, or an optionally substituted heteroaryl ring, and the others of R<sup>32</sup>, R<sup>33</sup>, R<sup>34</sup>, R<sup>35</sup> and R<sup>36</sup> are selected as in (a) above,

R<sup>1</sup> and R<sup>2</sup> are each independently selected from a group consisting of halo, hydrogen, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted aryl, optionally substituted heteroaryl, optionally substituted cycloalkyl, optionally substituted heterocyclyl, optionally substituted aralkyl, optionally substituted heteroaralkyl, -OR<sup>14</sup>, -SR<sup>14</sup>, -N(R<sup>15</sup>)R<sup>16</sup>, -N(R<sup>15</sup>)S(O)<sub>2</sub>R<sup>23</sup>, -N(R<sup>17</sup>)N(R<sup>15</sup>)R<sup>16</sup>, -N(R<sup>17</sup>)N(R<sup>15</sup>)S(O)<sub>2</sub>R<sup>23</sup>, -C(O)R<sup>18</sup>, -C(O)OR<sup>14</sup>, -C(S)OR<sup>14</sup>, -C(O)SR<sup>14</sup>, -C(O)N(R<sup>15</sup>)R<sup>16</sup>, -C(O)N(R<sup>15</sup>)S(O)<sub>2</sub>R<sup>23</sup>, -C(O)N(R<sup>15</sup>)N=R<sup>16</sup>, -C(O)N(R<sup>17</sup>)N(R<sup>15</sup>)R<sup>16</sup> and -C(O)N(R<sup>17</sup>)N(R<sup>15</sup>)S(O)<sub>2</sub>R<sup>23</sup>;

R<sup>3</sup> is hydrogen, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted aryl, optionally substituted aralkyl, optionally substituted heteroaryl, optionally substituted heterocyclyl,

optionally substituted heteroaralkyl,  $-C(O)R^{10}$ ,  $-C(O)OR^{10}$ ,  $-S(O)_2R^{10}$ ,  $-C(O)N(R^{11})R^{12}$ ,  $-C(O)N(R^{11})S(O)_2R^{23}$ ,  $-C(O)N(R^{13})N(R^{11})R^{12}$ ,  $-C(O)N(R^{13})N(R^{11})S(O)_2R^{23}$ ,  $-N(R^{13})C(O)R^{10}$ ,  $-N(R^{13})C(O)N(R^{11})R^{12}$ ,  $-N(R^{13})C(O)N(R^{11})S(O)_2R^{23}$ ,  $-N(R^{10})C(O)N(R^{13})N(R^{11})R^{12}$ ,  $-N(R^{10})C(O)N(R^{13})N(R^{11})S(O)_2R^{23}$ ,  $-N(R^{13})C(O)OR^{10}$ ,  $-P(O)OR^{10}$ , or  $-P(O)(OR^{19})OR^{12}$ ;

$R^4$ ,  $R^5$ ,  $R^6$  and  $R^7$  are each independently selected from a group consisting of hydrogen, halo, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted aryl, optionally substituted heteroaryl, optionally substituted cycloalkyl, optionally substituted heterocyclyl, optionally substituted aralkyl, optionally substituted heteroaralkyl,  $-OR^{14}$ ,  $-SR^{14}$ ,  $-S(O)_2R^{14}$ ,  $-N(R^{15})R^{16}$ ,  $-N(R^{15})S(O)_2R^{23}$ ,  $-N(R^{15})C(O)R^{23}$ ,  $-C(O)R^{18}$ ,  $-C(O)OR^{20}$ ,  $-C(O)N(R^{21})R^{22}$ ,  $-C(O)N(R^{21})S(O)_2R^{23}$ ,  $-C(O)N(R^{24})N(R^{21})R^{22}$  and  $-C(O)N(R^{24})N(R^{21})S(O)_2R^{23}$ ; or

$R^6$  and  $R^7$  together form an oxo, thioxo, optionally substituted imino, optionally substituted oxime or an optionally substituted hydrazone, or  $R^6$  and  $R^7$ , together with the carbon atom to which they are attached, form an optionally substituted exocyclic double bond, and  $R^4$  and  $R^5$  are as described above; or

$R^4$  and  $R^5$  together form an oxo, thioxo, optionally substituted imino, optionally substituted oxime or an optionally substituted hydrazone, or  $R^4$  and  $R^5$ , together with the carbon atom to which they are attached, form an optionally substituted exocyclic double bond, and  $R^6$  and  $R^7$  are as described above; or

$R^4$  and  $R^5$ , or  $R^4$  and  $R^6$ , or  $R^4$  and  $R^7$ , or  $R^5$  and  $R^6$ , or  $R^5$  and  $R^7$ , or  $R^6$  and  $R^7$ , together with the carbon atom to which they are attached, form an optionally substituted cycloalkyl ring, optionally substituted heterocyclyl ring, an optionally substituted cycloalkenyl ring or together form a double bond, and the others of  $R^4$ ,  $R^5$ ,  $R^6$  and  $R^7$  are as described above; or  $R^4$  and  $R^5$ , together with the carbon atom to which they are attached, and  $R^6$  and  $R^7$ , together with the carbon atom to which they are attached, form an optionally substituted cycloalkyl ring, optionally substituted heterocyclyl ring or an optionally substituted cycloalkenyl ring.

$R^9$  is hydrogen, optionally substituted alkyl,  $-C(O)R^{18}$ ,  $-C(O)OR^{20}$  or  $-S(O)_2R^{23}$ ;

$R^{10}$ ,  $R^{11}$ ,  $R^{12}$ ,  $R^{13}$  and  $R^{19}$  are selected as in (a) or (b) as follows: (a)  $R^{10}$ ,  $R^{11}$ ,  $R^{12}$ ,  $R^{13}$  and  $R^{19}$  each independently hydrogen, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted aryl, optionally substituted aralkyl, optionally substituted heterocyclyl, optionally substituted heteroaryl, or optionally substituted heteroaralkyl; or (b)  $R^{11}$  and  $R^{12}$  or  $R^{12}$  and  $R^{19}$ , together with the atoms to which they are attached, form an optionally substituted heterocyclyl ring or an

optionally substituted heteroaryl ring; and the others of R<sup>10</sup>, R<sup>11</sup>, R<sup>12</sup>, R<sup>13</sup> and R<sup>19</sup> are selected as in (a), above;

R<sup>14</sup>, R<sup>15</sup>, R<sup>16</sup>, R<sup>17</sup> and R<sup>18</sup> are selected as in (a) or (b) as follows: (a) R<sup>14</sup>, R<sup>15</sup>, R<sup>16</sup>, R<sup>17</sup> and R<sup>18</sup> are each independently hydrogen, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted aryl, optionally substituted aralkyl, optionally substituted heterocyclyl, optionally substituted heteroaryl, or optionally substituted heteroaralkyl; or (b) R<sup>15</sup> and R<sup>16</sup>, together with the nitrogen atom to which they are attached, form an optionally substituted heterocyclyl ring, or an optionally substituted heteroaryl ring, and the others of R<sup>14</sup>, R<sup>15</sup>, R<sup>16</sup>, R<sup>17</sup> and R<sup>18</sup> are selected as in (a) above;

R<sup>20</sup>, R<sup>21</sup>, R<sup>22</sup> and R<sup>24</sup> are selected as in (a) or (b) as follows: (a) R<sup>20</sup>, R<sup>21</sup>, R<sup>22</sup> and R<sup>24</sup> are each independently hydrogen, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted aryl, optionally substituted aralkyl, optionally substituted heterocyclyl, optionally substituted heteroaryl, or optionally substituted heteroaralkyl; or (b) R<sup>21</sup> and R<sup>22</sup>, together with the nitrogen atom to which they are attached, form an optionally substituted heterocyclyl ring, or an optionally substituted heteroaryl ring, and the others of R<sup>20</sup>, R<sup>21</sup>, R<sup>22</sup> and R<sup>24</sup> are selected as in (a) above;

R<sup>23</sup> is optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted aryl, optionally substituted aralkyl, optionally substituted heterocyclyl, optionally substituted heteroaryl, or optionally substituted heteroaralkyl;

each of R<sup>1</sup>-R<sup>24</sup> and R<sup>30</sup>-R<sup>36</sup>, when substituted, are substituted with one or more substituents, each independently selected from Q<sup>1</sup>;

each Q<sup>1</sup> is independently selected from halo, pseudohalo, oxo, thioxo, cyano, thiocarbonyl, isocyano, nitro, azido, alkyl, haloalkyl, alkenyl containing 1 to 2 double bonds, alkynyl containing 1 to 2 triple bonds, cycloalkyl, cycloalkenyl, cycloalkynyl, cycloalkylalkyl, heterocyclyl, heterocyclylalkyl, aryl, heteroaryl, aralkyl, aralkenyl, aralkynyl, heteroarylalkyl, alkylidene, arylalkylidene, aryloxyarylcabonylamino, hydroxycarbonylalkylthio, halosulfonyl, -OR<sup>70</sup>, -SR<sup>70</sup>, -R<sup>60</sup>-C(J)R<sup>71</sup>, -R<sup>60</sup>-N(R<sup>70</sup>)C(J)R<sup>71</sup>, -OC(O)R<sup>71</sup>, -R<sup>60</sup>-N(R<sup>75</sup>)(R<sup>76</sup>), -N<sup>+</sup>(R<sup>77</sup>)<sub>3</sub>, -P(R<sup>78</sup>)<sub>2</sub>, -P(O)(R<sup>78</sup>)<sub>2</sub>, -OP(O)(R<sup>78</sup>)<sub>2</sub>, -N(R<sup>70</sup>)S(O)<sub>2</sub>R<sup>71</sup>, -S(O)<sub>2</sub>R<sup>71</sup>, -S(O)R<sup>82</sup>, -OS(O)R<sup>83</sup>, -OS(O)<sub>2</sub>R<sup>83</sup> or -Si(R<sup>83</sup>)<sub>3</sub>;

two Q<sup>1</sup> groups, which substitute atoms in a 1,2 or 1,3 arrangement, together with the carbon atoms to which they are attached form a cycloalkyl ring, cycloalkenyl ring, cycloalkynyl ring or heterocyclyl ring; or



each Q<sup>1</sup> is independently substituted or unsubstituted with one or more substituents each independently selected from Q<sup>2</sup>;

each Q<sup>2</sup> is independently selected from halo, pseudohalo, oxo, thioxo, cyano, thioccyano, isoccyano, nitro, azido, alkyl, haloalkyl, alkenyl containing 1 to 2 double bonds, alkynyl containing 1 to 2 triple bonds, cycloalkyl, cycloalkenyl, cycloalkynyl, cycloalkylalkyl, heterocyclyl, heterocyclylalkyl, aryl, heteroaryl, aralkyl, aralkenyl, aralkynyl, heteroarylalkyl, alkylidene, arylalkylidene, aryloxyarylcabonylamino, hydroxycarbonylalkylthio, halosulfonyl, -OR<sup>70</sup>, -SR<sup>70</sup>, -R<sup>60</sup>-C(J)R<sup>71</sup>, -R<sup>60</sup>-N(R<sup>70</sup>)C(J)R<sup>71</sup>, -OC(O)R<sup>71</sup>, -R<sup>60</sup>-N(R<sup>75</sup>)(R<sup>76</sup>), -N<sup>+</sup>(R<sup>77</sup>)<sub>3</sub>, -P(R<sup>78</sup>)<sub>2</sub>, -P(O)(R<sup>78</sup>)<sub>2</sub>, -OP(O)(R<sup>78</sup>)<sub>2</sub>, -N(R<sup>70</sup>)S(O)<sub>2</sub>R<sup>71</sup>, -S(O)<sub>2</sub>R<sup>71</sup>, -S(O)R<sup>82</sup>, -OS(O)R<sup>83</sup>, -OS(O)<sub>2</sub>R<sup>83</sup> or -Si(R<sup>83</sup>)<sub>3</sub>;

two Q<sup>2</sup> groups, which substitute atoms in a 1,2 or 1,3 arrangement, together with the carbon atoms to which they are attached form a cycloalkyl ring, cycloalkenyl ring, cycloalkynyl ring or heterocyclyl ring;

each J is independently O, S or -NR<sup>70</sup>;

each R<sup>60</sup> is independently a direct bond or alkylene;

each R<sup>70</sup> is independently hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, aralkyl, haloalkyl, heterocyclylalkyl or heteroaralkyl;

each R<sup>71</sup> is independently hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, aralkyl, haloalkyl, heterocyclylalkyl, heteroaralkyl, -OR<sup>72</sup> or -N(R<sup>73</sup>)R<sup>74</sup>;

R<sup>72</sup>, R<sup>73</sup> and R<sup>74</sup> are each independently hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, aralkyl or heteroaralkyl; or

R<sup>73</sup> and R<sup>74</sup>, together with the nitrogen atom to which they are attached, form a heterocyclyl ring or heteroaryl ring;

R<sup>75</sup> and R<sup>76</sup> are each independently hydrogen, alkyl, alkenyl, alkynyl, aryl, aralkyl, heteroaryl, heteroaralkyl, heterocyclyl or heterocyclylalkyl; or

R<sup>75</sup> and R<sup>76</sup>, together with the nitrogen atom to which they are attached, form a heterocyclyl ring or heteroaryl ring;

each R<sup>77</sup> is independently alkyl, alkenyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, aralkyl or heteroaralkyl;

R<sup>78</sup> is alkyl, heteroaryl, heterocyclyl, aryl, -OR<sup>79</sup> or -N(R<sup>80</sup>)R<sup>81</sup>;

R<sup>79</sup> is hydrogen, alkyl, alkenyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, aralkyl or heteroaralkyl;

R<sup>80</sup> and R<sup>81</sup> are each independently hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, aralkyl or heteroaralkyl; or

R<sup>80</sup> and R<sup>81</sup>, together with the nitrogen atom to which they are attached, form a heterocyclyl ring or heteroaryl ring;

R<sup>82</sup> is alkyl, alkenyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, aralkyl, heteroaralkyl or -OR<sup>83</sup>; and

each R<sup>83</sup> is independently alkyl, alkenyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, aralkyl or heteroaralkyl;

as a single isomer, a mixture of isomers, or as a racemic mixture of isomers; ~~or as a solvate or polymorph; or as a prodrug; or as a pharmaceutically acceptable salt thereof.~~

47. (canceled)

48. (Currently amended) A method of treating or ameliorating one or more symptoms of a disease or disorder ~~The method of claim 47,~~ wherein the disease or disorder is selected from hyperlipidemia, hypercholesterolemia, hypertriglyceridemia, dyslipidemia, lipodystrophy, atherosclerosis, atherosclerotic disease, atherosclerotic disease events, atherosclerotic cardiovascular disease, Syndrome X, diabetes mellitus, type II diabetes, insulin insensitivity, hyperglycemia, cholestasis and obesity comprising administering to a subject in need thereof an effective amount of a compound or composition of any one claims 1-46.